# CONFIRMATION SAMPLING RESULTS HUMBOLDT ROAD PRIVATE PROPERTIES OPERATIONAL UNIT



APN 011-030-016 APN 011-030-136 APN 011-030-138 APN 002-180-084 APN 002-180-086

Prepared for

Private Properties Humboldt Road Burn Dump

Prepared by



September 2005

VESTRA Resources, Inc.

962 Maraglia Street Redding, California 96002

mapmaker@vestra.com http://www.vestra.com

September 19, 2005

530/223/2585

FAX: 530/223/1145

704006

Ms. Karen Clementsen California Regional Water Quality Control Board Central Valley Region 415 Knollcrest Drive Redding, Ca 96002



**Confirmation Sampling Results** 

Humboldt Road Private Properties Operational Unit APN 011-030-016, APN 011-030-136, APN 011-030-138, APN 002-180-084 and APN 002-180-086

Dear Ms. Clementsen:

Remediation of burn ash and waste debris on six assessor's parcels at the Humboldt Road Burn Dump was completed in accordance with the Final Remedial Action Plan, Humboldt Road Private Properties Operational Unit. The remedial activities were completed during summer 2004 and summer 2005. The assessor's parcels include APN 011-030-016, APN 011-030-136, APN 011-030-138, APN 011-030-139, APN 002-180-084, and APN 002-180-086. Assessor's parcels APN 011-030-016, APN 011-030-136, APN 011-030-138, and APN 011-030-139 are controlled by Fogarty Investments, Inc. Assessor's parcels APN 002-180-084 and APN 002-180-086 are controlled by Borge Development, Inc.

Burn ash and waste debris on APN 011-030-139 and a portion of APN 011-030-138 were excavated and placed into a consolidation cell located on APN 011-030-138 during summer 2004. Following the removal of the burn ash and waste debris, confirmation samples were collected to document residual levels of contamination. Confirmation sample results for APN 011-030-139 were submitted to the Regional Water Quality Control Board (RWQCB) in September 2004. The RWQCB issued a Certificate of Completion for APN 011-030-139 in March 2005.

Additional burn ash and waste debris from APN 011-030-016, APN 011-030-136, APN 011-030-138, APN 002-180-084, and APN 002-180-086 were excavated and placed into the consolidation cell located on APN 011-030-138 during summer 2005. Following the removal of the burn ash and waste debris, confirmation samples were collected to document residual levels of contamination. Confirmation sample results for APN 011-030-016, APN 011-030-136, APN 011-030-138, APN 002-180-084, and APN 002-180-086 are summarized in the attached report.



Ms. Karen Clementsen September 19, 2005 Page 2

If you have any questions, please call me or John Andrews at (530) 223-2585.

Sincerely,

VESTRA Resources, Inc.

Environmental Services Division

Wendy Johnston Project Manager

Mr. Tom Fogarty

Mr. Tim Patenaude/DTSC

Mr. Doug Aiken

John Andrews

Professional Geologist No. 4269

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# Section 1 INTRODUCTION

Remediation of burn ash and waste debris on six assessor's parcels at the Humboldt Road Burn Dump (HRBD) was completed in accordance with the Final Remedial Action Plan, Humboldt Road Private Properties Operational Unit (VESTRA, 2004a). The remedial activities were completed during summer 2004 and summer 2005. The assessor's parcels include APN 011-030-016, APN 011-030-136, APN 011-030-138, APN 011-030-139, APN 002-180-084, and APN 002-180-086. Assessor's parcels APN 011-030-016, APN 011-030-136, APN 011-030-138, and APN 011-030-139 are controlled by Fogarty Investments, Inc. Assessor's parcels APN 002-180-084 and APN 002-180-086 are controlled by Borge Development, Inc.

Burn ash and waste debris on APN 011-030-139 and a portion of APN 011-030-138 were excavated and placed into a consolidation cell located on APN 011-030-138 during summer 2004. Following the removal of the burn ash and waste debris, confirmation samples were collected in accordance with the Remedial Design and Implementation Plan (VESTRA, 2004b) to document residual levels of contamination. Confirmation sample results for APN 011-030-139 were submitted to the Regional Water Quality Control Board (RWQCB) in September 2004 (VESTRA, 2004c). The RWQCB issued a Certificate of Completion for APN 011-030-139 in March 2005. Because a Certificate of Completion was issued for APN 011-030-139, this parcel is <u>not</u> addressed in this report.

Additional burn ash and waste debris from APN 011-030-016, APN 011-030-136, APN 011-030-138, APN 002-180-084, and APN 002-180-086 were excavated and placed into the consolidation cell located on APN 011-030-138 during summer 2005. Following the removal of the burn ash and waste debris, confirmation samples were collected in accordance with the Remedial Design and Implementation Plan (VESTRA, 2004b) to document residual levels of contamination. Confirmation sample results for APN 011-030-016, APN 011-030-136, APN 011-030-138, APN 002-180-084, and APN 002-180-086 are summarized in this report.

#### **OBJECTIVE**

This confirmation sampling report was prepared and is being submitted to the RWQCB to support a Certificate of Completion for APN 011-030-016, APN 011-030-136, APN 011-030-138, APN 002-180-084, and APN 002-180-086. This request is based on:

- Approximately 37,000 loose cubic yards of burn ash and waste debris were removed from a portion of APN 011-030-138 and placed into a consolidation cell during summer 2004. Approximately 139,000 additional loose cubic yards of burn ash and waste debris on APN 011-030-016, APN 011-030-136, APN 011-030-138, APN 002-180-084, and APN 002-180-086 were removed and placed into a consolidation cell during summer 2005.
- Confirmation soil samples were collected from approximately 270 locations and submitted for lead analyses. The average residual lead concentration is 39.5 mg/kg. Bedrock was exposed and soil samples were not collected from an additional 228 locations.
- The remedial action goal for lead at the HRBD is 224 mg/kg (EMKO, 2001b).
- The background soil lead concentration reported in the Remedial Investigation Report is 19 mg/kg (EMKO, 2001a).

Remedial action goals identified for arsenic and dioxin are 6.12 mg/kg and 5.0E-04 mg/kg, respectively. The residual arsenic and dioxin concentrations are less than these remedial action goals.

#### SITE LOCATION

The HRBD is a collection of adjacent properties totaling approximately 157 acres located near the intersections of Bruce Road, Humboldt Road, and Highway 32 in Chico, California. Burn ash and waste debris have been identified on approximately 70 acres. The General Site Location of the HRBD is shown on Figure 1. The five parcels addressed in this confirmation sampling report are identified on Figure 2.

#### PREVIOUS CHARACTERIZATION ACTIVITIES

Background information on the HRBD is summarized in the Final Remedial Action Plan (VESTRA, 2004a) prepared for the Humboldt Road Private Properties Operational Unit. Additional information for the site is presented in the Remedial Investigation Report (EMKO, 2001a), Baseline Risk Assessment (EMKO, 2001b), and Feasibility Study (EMKO, 2002).

For characterization purposes, the HRBD was originally divided into characterization areas, not parcels. These characterization areas are shown on Figure 3. Contaminated portions of APN 011-030-016, APN 011-030-138, APN 002-180-084, and APN 002-180-086 include a small portion of Area 2, most of Area 3, Area 4, and Area 6. Area 1 and the remaining portions of Areas 2 and 3 are controlled by the City of Chico and are not included in the private properties operational unit. Area 5 was addressed by the private properties during summer 2004.

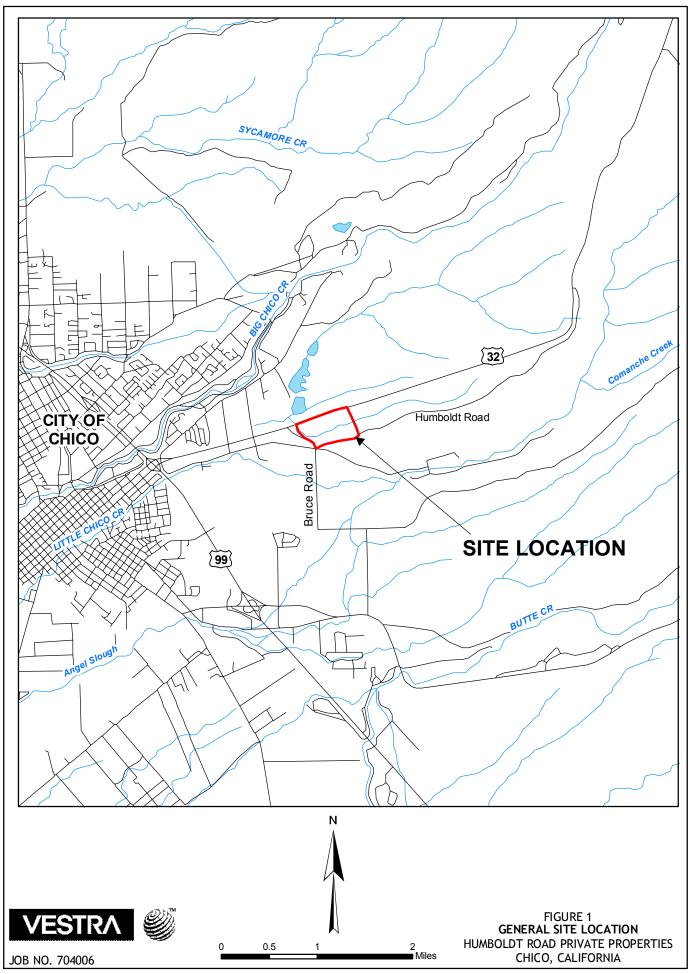
For confirmation sampling purposes, Area 3 was divided into Area 3W and Area 3E. The small portion of Area 2 east of Bruce Road is included in Area 3W. The consolidation cell is located in Area 3E. Areas 4 and 6 were not redefined. The redefined confirmation sampling areas are shown on Figure 4.

#### **REMEDIAL ACTION GOALS**

Based on the soil analytical results and risk evaluation presented in the Baseline Risk Assessment (EMKO, 2001b), the primary compounds contributing to increased health risks include lead in Areas 3, 4, and 6; arsenic in Areas 3 and 4; and polychlorinated dibenzo-p-dioxins and polychlorinated dibenzo-production (dioxin) in Areas 3, 4, and 6. Remedial action goals for these compounds are summarized in Table 1.

The remedial action goal for lead is based on the results of the Department of Toxic Substances Control (DTSC) LeadSpread 7.0 computer model; the arsenic goal is set at the 95 percent upper confidence limit for the mean background concentration; and the dioxin toxic equivalence quotient (TEQ) is set at ½ the level defined in Office of Solid Waste and Emergency Response (OSWER) Directive 9200.4-26. This directive recommends a dioxin TEQ cleanup level of 0.001 mg/kg, equivalent to one part per billion, in residential soils and 0.005 to 0.020 mg/kg in commercial and industrial soils.

	Table 1 REMEDIAL ACTION GOALS	
Constituent of Concern	Remedial Action Goal (mg/kg)	Source
Lead	224	DTSC LeadSpread Model 7.0
Arsenic	6.12	95 % UCL mean background
Dioxin (TEQ)	0.0005	½ current USEPA Directive



SEPTEMBER 2005

SEPTEMBER 2005

SEPTEMBER 2005

# Section 2 CONFIRMATION SAMPLING PROGRAM

Confirmation soil samples were collected to document residual concentrations following the completion of the excavation activities in Area 3W, Area 3E, Area 4, and Area 6. In general, the sampling program was conducted in two phases. Phase 1 included collecting confirmation samples for lead analyses to direct and document the effectiveness of the excavation activities. Phase 2 included collecting additional confirmation samples for lead, arsenic, and dioxin analyses to verify compliance with the remedial action goals. The confirmation sample locations are shown on Plate 1.

#### DAILY WORK SUMMARY

Approximately 37,000 loose cubic yards of burn ash and waste debris were excavated and consolidated during summer 2004, and approximately 139,000 loose cubic yards of burn ash and waste debris were excavated and consolidated during summer 2005. A daily work summary including primary and secondary work areas, volume of waste handled, sampling activities, and regulatory inspections is presented in Table 2. Air quality samples were collected during all construction activities. Soil samples were collected as necessary to implement the provisions of the Sampling and Analysis Plan included in the Remedial Design and Implementation Plan (VESTRA, 2004b). Formal site inspections were conducted by the Butte County Air Quality Management District (AQMD), RWQCB, DTSC, and California Department of Fish and Game (DFG).

Representative photographs of the 2004 and 2005 remedial activities are included in Appendix A.

#### CONFIRMATION SAMPLING PROCEDURES

As shown on Plate 1, the confirmation samples were collected on a regular grid. The following information was collected at each grid location:

GPS Coordinates
Identification of exposed material
Bedrock
Soil with no visible waste
Soil with surficial waste only
Soil with waste in soil matrix
Photograph of grid point
Soil sample if soil was present

In general, soil samples for metal analyses were collected by: 1) scraping away vegetation, 2) loosening the soil to bedrock or a depth of approximately 6-inches, 3) placing the disturbed soil in a new gallon zip lock bag using a decontaminated stainless steel trowel, 4) mixing the soil in the zip lock bag and transferring a portion of the sample into a laboratory-supplied container, and 5) placing the container in an iced cooler. Samples for dioxin analyses were collected directly into the laboratory-supplied containers.

Phase 1 soil samples were analyzed for lead by a California-certified analytical laboratory using EPA Method 8010A. The results were used to direct and document the effectiveness of the excavation activities. Following the completion of the excavation activities, 10 percent of the Phase 1 grid locations were re-sampled. The re-sampled or Phase 2 locations were selected randomly from the Phase 1 locations. Soil from each randomly selected location was collected and submitted to a California-certified analytical laboratory. The Phase 2 samples from Area 3W, Area 3E, Area 4, and Area 6 were analyzed for lead and arsenic by EPA Method 8010A. Soil from each Phase 2 location was also composited by the

analytical laboratory into a single sample representing each area. Composite samples from Area 3W, Area 3E, Area 4 and Area 6 were analyzed for dioxin using EPA Method 8290.

#### CONFIRMATION SAMPLING RESULTS

The Phase 1 lead concentrations are summarized in Tables 4 (Area 3W), 5 (Area 3E), 6 (Area 4), and 7 (Area 6). A brief description of the columns in each table is included in Table 3. The final lead concentrations are shown in the last column. The majority of the Phase 1 confirmation samples for Area 6 were collected during summer 2004. The remaining samples were collected during summer 2005. The confirmation sample locations are shown on Plate 1. For reference, the GPS coordinates are included in Appendix B.

Average residual lead concentrations are 55.0 mg/kg in Area 3W, 27.4 mg/kg in Area 3E, 33.9 mg/kg in Area 4, and 32.4 mg/kg in Area 6. The remedial action goal for lead is 224 mg/kg. Lead concentrations in soil samples collected outside the northern boundary of Area 3E and Area 4 are included on Table 8. These samples were collected during 2004 and the results are included in this report because they show that the average lead concentration along this buffer area is 31.7 mg/kg.

The final lead concentration in soil from one out of approximately 270 sample locations exceeded the remedial action goal of 224 mg/kg. A lead concentration of 242 mg/kg was detected in a sediment sample collected near Dead Horse Slough, approximately 200 feet south of the Highway 32 box culvert (Sample BRCS-3 in Area 3W). This portion of the stream channel was left undisturbed to serve as a buffer between the last sediment control check dam and the box culvert. A photograph of this area is included in Appendix C.

The Phase 2 lead, arsenic, and dioxin concentrations are summarized in Tables 9 (Area 3W), 10 (Area 3E), 11 (Area 4), and 12 (Area 6). Remedial action goals identified for arsenic and dioxin are 6.12 mg/kg and 5.0E-04 mg/kg, respectively. The Phase 2 lead, arsenic, and dioxin concentrations are less than the remedial action goals.

The Phase 1 and Phase 2 analytical reports are included as Appendix B.

#### RESIDUAL WASTE AREAS

Residual burn ash and waste debris remain at several onsite locations. The locations are shown on Plate 2 and representative photographs are included in Appendix C. The locations include:

- Eastside of Bruce Road. Burn ash and waste debris were removed from Area 3W adjacent to Bruce Road. This burn ash and waste debris continued beneath the fence line and onto the Bruce Road right-of-way. Geotextile fabric was used to separate the burn ash and waste debris encountered along the fence line from the clean material used to backfill the excavation. GPS coordinates for the waste are included in Appendix C.
- Several Oak and Cottonwood Trees along Dead Horse Slough. In conjunction with the Stream Alteration Agreement issued by DFG, the property owners were requested to leave several of the larger Oak and Cottonwood trees growing in waste debris along Dead Horse Slough. As a result, residual waste remains within the root zone of three Oak trees located on the west side of Area 4, and within the root zone of several cottonwood trees located along Dead Horse Slough. Following the removal activities, clean backfill material was placed beneath these trees to cover and protect exposed roots.

- Stream Channel South of Highway 32 Box Culvert. A small portion of Dead Horse Slough located immediately upstream from the Highway 32 box culvert was left undisturbed to serve as a buffer between the last sediment control check dam and the box culvert. The lead concentration in a soil sample collected from this area was 242 mg/kg (Sample BRCS-3 in Area 3W).
- Former Berm on North Side of Dead Horse Slough. A large berm containing approximately 20,000 cubic yards of clean material was located along the north side of Dead Horse Slough in Area 3W. It appears that this material was originally placed on a thin veneer of burn ash and waste debris approximately one to two inches thick. The location of this veneer of burn ash and waste debris was documented before the berm was reshaped for planting. Analytical results for the berm are included in Table 4 (TP-1 through TP-15). GPS coordinates for the outline of the berm are included in Appendix C.

Appendix C also includes representative photographs of the haul roads used during the construction activities. Following the completion of the construction activities, the haul roads were scraped to remove waste debris. If bedrock was exposed following the removal of this debris, soil samples were not collected. However, if soil was exposed, soil samples were collected and submitted for analyses. The results are included on Tables 4 through 7. After the main haul road along Humboldt Road was scraped to bedrock, the roadway was re-rocked to minimize dust generation when the clean cover soil was delivered to the site. This rock remains in-place. Haul road locations are shown on Plate 2.

	Regulatory Inspections		AQMD/DFG	AQMD/RWQCB	AQMD/DFG	-		AQMD	AQMD	AQMD	AQMD	AQMD	-	!	AQMD	AQMD	AQMD	AQMD	AQMD	!	-	AQMD	AQMD	AQMD	AQMD	AQMD	-	
	Soil Sampling		1	-	-					-		-	1	-		-	-	-	1	-			-			1	1	
	Air Sampling		X	x	X	X	X	X	X	x	X	X	×		X	x	X	X	X			x	X	X	X	X		
Table 2 DAILY WORK SUMMARY	Secondary Work Area	Summer 2004											-									Set Cell Grade	Set Cell Grade	Set Cell Grade	Set Cell Grade	Set Cell Grade		
Tal DAILY WOR	Primary Work Area	Summ	Excavate Area 6	Excavate Area 6	Excavate Area 6			Excavate Area 6	-	-	Excavate Area 3E	Excavate Area 3E	Excavate Area 3E	Excavate Area 3E/6	Excavate Area 3E	-		Excavate Area 3E	Excavate Area 3E/6	Excavate Area 3E/6	Excavate Area 3E	Excavate Area 3E	-					
	Cumulative Waste Volume (loose cyds)		150	2,750	5,150	5,150	5,150	7,750	10,250	11,850	11,850	14,050	14,050	14,050	16,650	16,650	19,250	20,950	21,200	21,200	21,200	24,100	27,100	32,000	35,400	37,275	37,275	37,275
	Daily Waste Volume (loose cyds)		150	2600	2400	0	0	2600	2500	1600	0	2200	0	0	2600	0	2600	1700	250	0	0	2900	3000	4900	3400	1875	0	0
	Date		7/14/2004	7/15/2004	7/16/2004	7/17/2004	7/18/2004	7/19/2004	7/20/2004	7/21/2004	7/22/2004	7/23/2004	7/24/2004	7/25/2004	7/26/2004	7/27/2004	7/28/2004	7/29/2004	7/30/2004	7/31/2004	8/01/2004	8/02/2004	8/03/2004	8/04/2004	8/05/2004	8/06/2004	8/07/2004	8/08/2004

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	Regulatory Inspections	AQMD	AQMD	AQMD	AQMD	AQMD		AQMD/RWQCB	AQMD/RWQCB	AQMD	AQMD	AQMD		AQMD	AQMD	AQMD/RWQCB	AQMD	AQMD			AQMD	AQMD	AQMD/RWQCB/DTSC	AQMD	AQMD			AQMD
	Soil Sampling				X	X						-	-				-	X	-	-	X			X	1	-		
	Air Sampling	X	X	X	X	X		X	X	X	X	X		X	X	X	X	X			X	X	X	X	×			X
Table 2 (continued) DAILY WORK SUMMARY	Secondary Work Area	Import Soil/Erosion Control	Import Soil/Erosion Control	Import Soil/Erosion Control	Import Soil/Erosion Control	Erosion Control	Summer 2005														Sweep Area 6			Sweep Area 6				
Table 2 (c DAILY WOR	Primary Work Area	Excavate Area 3E	Place Cover Soil	Place Cover Soil	Place Cover Soil	Place Cover Soil	Summ	Excavate Area 4		Excavate Area 4			Excavate Area 4			Excavate Area 4												
	Cumulative Waste Volume (loose cyds)	37,375	37,375	37,375	37,375	37,375		1,740	2,640	2,640	5,280	7,800	7,800	11,469	15,471	20,031	24,870	27,927	27,927	27,927	31,755	35,184	38,916	43,164	45,978	45,978	45,978	49,551
	Daily Waste Volume (loose cyds)	100	0	0	0	0		1,740	006	0	2,640	2,520	0	3,669	4,002	4,560	4,839	3,057	0	0	3,828	3,429	3,732	4,248	2,814	0	0	3,573
	Date	8/09/2004	8/10/2004	8/11/2004	8/12/2004	8/13/2004		5/31/2005	6/1/2005	6/2/2005	6/3/2005	6/4/2005	6/5/2005	6/6/2005	6/7/2005	6/8/2005	6/9/2005	6/10/2005	6/11/2005	6/12/2005	6/13/2005	6/14/2005	6/15/2005	6/16/2005	6/17/2005	6/18/2005	6/19/2005	6/20/2005

			Table 2 (continued) DAILY WORK SUMM	Table 2 (continued) DAILY WORK SUMMARY			
Date	Daily Waste Volume (loose cyds)	Cumulative Waste Volume (loose cyds)	Primary Work Area	Secondary Work Area	Air Sampling	Soil Sampling	Regulatory Inspections
6/21/2005	3,906	53,457	Excavate Area 4	Sweep Area 6	X		AQMD/RWQCB
6/22/2005	3,564	57,021	Excavate Area 4	Sweep Area 6	x		AQMD
6/23/2005	2,808	59,829	Excavate Area 4	Sweep Area 6	x		AQMD
6/24/2005	3,456	63,285	Excavate Area 4	Sweep Area 6	X		AQMD
6/25/2005	0	63,285					
6/26/2005	0	63,285					
6/27/2005	3,348	66,633	Excavate Area 3E/3W	Sweep Area 6	X		AQMD
6/28/2005	1,799	68,432	Excavate Area 3E/3W	Sweep Area 6	X		AQMD
6/29/2005	2,916	71,348	Excavate Area 3E/3W	Sweep Area 6	x		AQMD/RWQCB
6/30/2005	2,673	74,021	Excavate Area 3E/3W	Sweep Area 6	X		AQMD
7/1/2005	2,889	76,910	Excavate Area 3E/3W	Sweep Area 6	X		AQMD
7/2/2005	0	76,910					
7/3/2005	0	76,910	!	!	-	-	1
7/4/2005	0	76,910					
7/5/2005	3,753	80,663	Excavate Area 3E/3W	Sweep Area 4	x		AQMD
7/6/2005	3,915	84,578	Excavate Area 3E/3W	Sweep Area 4	X		AQMD
7/7/2005	3,672	88,250	Excavate Area 3E/3W	Sweep Area 4	X	X	AQMD
7/8/2005	3,429	91,679	Excavate Area 3E/3W	Sweep Area 4	×	X	AQMD
7/9/2005	0	91,679					
7/10/2005	0	91,679					
7/11/2005	3,024	94,703	Excavate Area 3E/3W	Sweep Area 4	x		AQMD
7/12/2005	3,240	97,943	Excavate Area 3E/3W	Sweep Area 4	X		AQMD/RWQCB
7/13/2005	3,240	101,183	Excavate Area 3E/3W	Sweep Area 4	X		AQMD
7/14/2005	4,131	105,314	Excavate Area 3E/3W	Sweep Area 4	×		AQMD
7/15/2005	2,214	107,528	Excavate Area 3E/3W	Sweep Area 4	×		AQMD/RWQCB
7/16/2005	1,431	108,959	Excavate Area 3E/3W	Sweep Area 4	×	-	AQMD
7/17/2005	0	108,959		-			

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			Table 2 (c DAILY WOR	Table 2 (continued) DAILY WORK SUMMARY			
Date	Daily Waste Volume (loose cyds)	Cumulative Waste Volume (loose cyds)	Primary Work Area	Secondary Work Area	Air Sampling	Soil Sampling	Regulatory Inspections
7/18/2005	2,322	111,281	Excavate Area 3E/3W	Sweep Area 4	X	X	AQMD
7/19/2005	2,457	113,738	Excavate Area 3E/3W	Set Final Cell Grade	X	X	AQMD/RWQCB
7/20/2005	1,539	115,277	Excavate Area 3E/3W	Set Final Cell Grade	X	X	AQMD
7/21/2005	2,457	117,734	Excavate Area 3E/3W	Set Final Cell Grade	X	X	AQMD
7/22/2005	1,890	119,624	Excavate Area 3E/3W	Set Final Cell Grade	X	X	AQMD
7/23/2005	2,079	121,703	Excavate Area 3E/3W	Set Final Cell Grade	X		AQMD
7/24/2005	0	121,703		-			-
7/25/2005	1,323	123,026	Excavate Area 3E/3W	Set Final Cell Grade	X	X	AQMD
7/26/2005	2,052	125,078	Excavate Area 3E/3W	Set Final Cell Grade	X	X	AQMD
7/27/2005	1,647	126,725	Excavate Area 3E/3W	Set Final Cell Grade	X		AQMD/RWQCB
7/28/2005	1,863	128,588	Excavate Area 3E/3W	Set Final Cell Grade	X	X	AQMD
7/29/2005	1,512	130,100	Excavate Area 3E/3W	Set Final Cell Grade	X	X	AQMD
7/30/2005	270	130,370	Excavate Area 3E/3W	Set Final Cell Grade	X	-	AQMD
7/31/2005	0	130,370					
8/1/2005	2,133	132,503	Excavate Area $3E/3W$	Import Soil/Erosion Control	X		AQMD/RWQCB
8/2/2005	1,701	134,204	Excavate Area $3E/3W$	Import Soil/Erosion Control	X	X	AQMD/RWQCB/DTSC
8/3/2005	1,431	135,635	Excavate Area $3E/3W$	Import Soil/Erosion Control	X		AQMD
8/4/2005	1,350	136,985	Install Liner	Import Soil/Erosion Control	X	X	AQMD
8/5/2005	1,269	138,254	Install Liner	Import Soil/Erosion Control	X	X	AQMD/RWQCB
8/6/2005	0	138,254	Install Liner				-
8/7/2005	0	138,254					
8/8/2005	594	138,848	Install Liner	Import Soil/Erosion Control	X	X	AQMD
8/9/2005	405	139,253	Install Liner	Import Soil/Erosion Control	X	X	AQMD
8/10/2005	81	139,334	Install Liner	Import Soil/Erosion Control	X		AQMD/RWQCB
8/11/2005	0	139,334	Install Liner	Import Soil/Erosion Control	X		
8/12/2005	0	139,334	Install Liner	Import Soil/Erosion Control			1
8/13/2005	0	139,334	Install Liner	-	-	X	-

	Regulatory Inspections									RWQCB						
	Soil Sampling															-
	Air Sampling															
Table 2 (continued) DAILY WORK SUMMARY	Secondary Work Area		Import Soil/Erosion Control	Import Soil/Erosion Control	Site Cleanup	Site Cleanup	Site Cleanup			Site Cleanup	Site Cleanup	Site Cleanup	Site Cleanup			-
Table 2 (c DAILY WOR	Primary Work Area		Place Cover Soil	Place Cover Soil	Place Cover Soil	Place Cover Soil	Place Cover Soil			Place Cover Soil	Place Cover Soil	Place Cover Soil	Place Cover Soil	Site Cleanup	Site Cleanup	Site Cleanup
	Cumulative Waste Volume (loose cyds)	139,334	139,334	139,334	139,334	139,334	139,334	139,334	139,334	139,334	139,334	139,334	139,334	139,334	139,334	139,334

Daily Waste

Date

Volume (loose cyds)

0 0

8/15/2005 8/16/2005 8/11/2005 8/18/2005 8/20/2005 8/21/2005 8/23/2005 8/24/2005 8/25/2005 8/25/2005 8/25/2005 8/26/2005

8/14/2005

0 0 0 0

0

0

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Page

	Table 3  DESCRIPTION OF COLUMN HEADINGS  (TABLES 4 - 12)
Column Heading	Description
Sample ID	Numeric or alpha-numeric value used to identify each sample.
Toitial Condition	Condition of the sample location during the initial Phase 1 sampling round. A condition of "0.0 bedrock" means bedrock was covered with less than 0.5 inches of soil, and ">6 bedrock means the depth-to-bedrock was greater than 6 inches. In most cases, if the area was located within the DTSC fence line, the initial Phase 1 sampling was conducted following excavation.
	In general, soil samples were not collected at the initial Phase 1 sample locations if bedrock was exposed (typically <0.5 inches to bedrock unless the area was scheduled to be swept), the locations were inaccessible, or follow up activities were planned. Locations with standing water were considered inaccessible. Follow up activities included additional excavation or the removal of temporary haul roads. Soil samples were collected in these areas when they became accessible or the follow up activities were completed.
Initial Lead (mg/kg)	Lead concentration (mg/kg) in soil samples collected during the initial Phase 1 sampling round.
$\begin{array}{c} \text{RWQCB Lead} \\ \text{(mg/kg)} \end{array}$	Lead concentration (mg/kg) in split soil samples collected by the RWQCB.
Follow up Action	Action conducted following the initial Phase 1 sampling round.
Follow up Condition	Condition of the sample location during the follow up Phase 1 or Phase 2 sampling round.
Resample Lead (mg/kg)	Lead concentration (mg/kg) in soil samples collected during the follow up Phase 1 or Phase 2 sampling round.
Final Lead (mo/ko)	Final lead concentration (mg/kg) or final condition of the sample location after the completion of the removal
Final Condition	_
Phase 1 Lead	Summary of the Phase 1 lead concentrations (mg/kg).
Phase 2 Lead	Phase 2 lead concentration (mg/kg).
Phase 2 Arsenic	Phase 2 arsenic concentration (mg/kg).
Phase 2 Dioxin TEQ	Phase 2 dioxin TEQ.
Note: In general, sample loc were collected after th conducted concurrent	Note: In general, sample locations were established on a 75 foot grid pattern. In Areas 3E, 4, and 6, these locations were predetermined and the samples were collected after the major excavation activities were completed. Because of the irregular shape of Area 3W and because this sampling was conducted concurrently with the excavation activities, the grid for Area 3W was established in the field.

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		Hd	Table 4 PHASE 1 LEAD RESULTS – AREA 3W	ole 4 SULTS – AREA	3W		
Sample ID	Initial Condition	Initial Lead (mg/kg)	RWQCB Lead (mg/kg)	Follow Up Action	Follow Up Condition	Resample Lead (mg/kg)	Final Lead (mg/kg)
905	0.0 bedrock		-	1	0.0 bedrock	-	bedrock
903	<0.5 bedrock	-	1	1	1	-	bedrock
904	<0.5 bedrock						bedrock
905	0.0 bedrock						bedrock
906	0.0 bedrock						bedrock
206	0.0 bedrock						bedrock
806	>6 bedrock	18.4					18.4
606	>6 bedrock	30.6					30.6
910	0.0 bedrock						bedrock
911	>6 bedrock	26.8					26.8
912	>6 bedrock	22.2	39.2	-	>6 bedrock	36.4	32.6
913	0.0 bedrock						bedrock
914	0.0 bedrock						bedrock
915	<0.5 bedrock						bedrock
916	0.0 bedrock						bedrock
917	0.0 bedrock						bedrock
918	0.0 bedrock				0.0 bedrock		bedrock
919	<0.5 bedrock						bedrock
920	0.0 bedrock						bedrock
921	0.0 bedrock						bedrock
922	< 1.0 bedrock						bedrock
923	no point	location on b	location on berm which was sampled separately	led separately	-		no point
924	no point	location on b	location on berm which was sampled separately	led separately			no point
925	no point	location on b	location on berm which was sampled separately	led separately			no point
926	haul road			removed	>6 bedrock	51.6	51.6
927	haul road			removed	>6 bedrock	94.0	94.0
928	haul road			removed	>6 bedrock	93.4	93.4

		Hd	Table 4 (continued) PHASE 1 LEAD RESULTS –	ontinued) SULTS – AREA 3W	3W		
Sample ID	Initial Condition	Initial Lead (mg/kg)	RWQCB Lead (mg/kg)	Follow Up Action	Follow Up Condition	Resample Lead (mg/kg)	Final Lead (mg/kg)
929	0.0 bedrock	1		1	-	-	bedrock
930	haul road			removed	hardpan	9.4/14.4	11.9
931	haul road			removed	>6 bedrock	39.2	39.2
932	hardpan				>6 bedrock	37.4	37.4
933	hardpan				>6 bedrock	8.7	8.7
934	<0.5 bedrock						bedrock
935	>6 bedrock	27.8					27.8
936	0.0 bedrock						bedrock
937	>6 bedrock	47.2					47.2
938	>6 bedrock	110					110.0
939	>6 bedrock	120					120.0
940	0.0 bedrock	-	-	1	-	1	bedrock
941	>6 bedrock	10.8					10.8
942	>6 bedrock	16.8					16.8
943	>6 bedrock	27.4			>6 bedrock	39.4/46.4	37.6
944	hardpan				4.0 bedrock	98.6	98.6
945	0.0 bedrock	-		1	-	-	bedrock
946	>6 bedrock	26.4	-	1	>6 bedrock	96.4	61.4
947	>6 bedrock	22.2					22.2
948	>6 bedrock	8.2					8.2
949	>6 bedrock	26.2					26.2
950	hardpan				>6 bedrock	6.3/7.3	6.8
951	haul road			removed	>6 bedrock	181	181.0
952	>6 bedrock	10.5	28.6				19.6
953	>6 bedrock	73.4					73.4
954	haul road			removed	>6 bedrock	40.0	40.0
955	standing water			-	>6 bedrock	85.6	85.6
926	standing water				>6 bedrock	8.0	8.0

		Hd	Table 4 (continued) PHASE 1 LEAD RESULTS – AREA 3W	ontinued) SULTS – AREA	3W		
Sample ID	Initial Condition	Initial Lead (mg/kg)	RWQCB Lead (mg/kg)	Follow Up Action	$\begin{array}{c} \text{Follow Up} \\ \text{Condition} \end{array}$	Resample Lead (mg/kg)	Final Lead (mg/kg)
957	>6 bedrock	10.4					10.4
958	0.0 bedrock						bedrock
959	>6 bedrock	906	264	excavated	>6 bedrock	236/6.7	121.4
096	<0.5 bedrock						bedrock
961	>6 bedrock	21.4	162				91.7
962	no point		sample ID not used				no point
963	no point		sample ID not used				no point
964	haul road			removed	>6 bedrock	10.0	10.0
965	haul road			removed	>6 bedrock	15.8	15.8
996	>6 bedrock	18.1					18.1
1001	4.0 bedrock			excavated	>6 bedrock	8.1	8.1
1002	>6 bedrock	6.5					6.5
1003	>6 bedrock	7.7					7.7
1004	>6 bedrock	10.5					10.5
1005	>6 bedrock	5.3					5.3
1006	>6 bedrock	8.5					8.5
1007	>6 bedrock	7.7					7.7
1008	>6 bedrock	17.4					17.4
1101	0.0 bedrock						bedrock
1102	>6 bedrock	372		excavated	>6 bedrock	204	204.0
1103	0.0 bedrock						bedrock
1104	0.0 bedrock						bedrock
1105	>6 bedrock	202					202.0
1106	0.0 bedrock						bedrock
1107	3.0 bedrock	4.7	68.4		3.0 bedrock	210	94.4
1108	>6 bedrock	744		excavated	0.0 bedrock		bedrock
1109	>6 bedrock	11.3			-	-	11.3
1110	>6 bedrock	582		excavated	>6 bedrock	8.6	8.6

		Hd	Table 4 (continued) PHASE 1 LEAD RESULTS –	ontinued) SULTS – AREA 3W	3W		
Sample ID	Initial Condition	Initial Lead (mg/kg)	RWQCB Lead (mg/kg)	Follow Up Action	Follow $\operatorname{Up}$ Condition	Resample Lead (mg/kg)	Final Lead (mg/kg)
1111	>6 bedrock	964	-	excavated	>6 bedrock	6.0	6.0
1112	>6 bedrock	7.8	109		>6 bedrock	129	81.9
1113	>6 bedrock	26.8					26.8
1114	>6 bedrock	264		excavated	>6 bedrock	16.0	16.0
1115	>6 bedrock	60.2					60.2
1116	>6 bedrock	45.8	-			1	45.8
1117	3.0 bedrock	178					178.0
1201	>6 bedrock	7.5					7.5
1202	>6 bedrock	92.0					92.0
1203	>6 bedrock	9.4					9.4
1204	0.0 bedrock						bedrock
1205	0.0 bedrock						bedrock
1206	3.0 bedrock	204					204.0
1207	>6 bedrock	126	214				170.0
1208	0.0 bedrock						bedrock
1209	0.0 bedrock						bedrock
1210	0.0 bedrock						bedrock
1211	>6 bedrock	15.6	52.2				33.9
1212	0.0 bedrock						bedrock
1213	3.0 bedrock	236	191				213.0
1214	1.0 bedrock	94.0	91.8				92.9
1215	>6 bedrock	13.6					13.6
1216	>6 bedrock	45.4					45.4
1217	>6 bedrock	27.6					27.6
1218	>6 bedrock	35.2					35.2
1219	>6 bedrock	134					134.0
1220	>6 bedrock	13.5					13.5
1221	>6 bedrock	13.3					13.3

		Hd	Table 4 (continued) PHASE 1 LEAD RESULTS – AREA 3W	ontinued) SULTS – AREA	3W		
Sample ID	Initial Condition	Initial Lead (mg/kg)	RWQCB Lead (mg/kg)	Follow Up Action	Follow Up Condition	Resample Lead (mg/kg)	Final Lead (mg/kg)
1222	>6 bedrock	47.6	1	-		1	47.6
1223	>6 bedrock	52.6					52.6
1224	>6 bedrock	34.4					34.4
1225	>6 bedrock	34.8					34.8
1226	>6 bedrock	9.2					9.2
1411	0.0 bedrock						bedrock
1412	>6 bedrock	13.1					13.1
TP-1	berm	$103.3^{-1}$	-	removed	>6 bedrock		-
TP-2	berm	27.1 1					27.1 2
TP-3	berm	197.3 1		removed	>6 bedrock		$16.3^{2}$
TP-4	berm	$105.7^{1}$					105.7 2
TP-5	berm	$81.8^{1}$		removed	>6 bedrock		$18.4^{2}$
TP-6	berm	79.8 1					79.8 2
TP-7	berm	232.3 1		removed	>6 bedrock		62.3 <sup>2</sup>
TP-8	berm	39.1 1	1		1	-	39.1 2
6-dL	berm	294.3 1	-	removed	>6 bedrock		$114.0^{2}$
TP-10	berm	237.1 1		removed	>6 bedrock		65.5 2
TP-11	berm	47.3 1		-		-	47.3 <sup>2</sup>
TP-12	berm	$271.1^{-1}$		removed	>6 bedrock		$119.6^{2}$
TP-13	berm	37.0 1					$37.0^{2}$
TP-14	berm	85.3 1					85.3 2
TP-15	berm	22.1 1					22.1 <sup>2</sup>
BRCS-2	>6 bedrock	19.7					19.7
BRCS-3	>6 bedrock	242.0			-	-	242.0
Average	1	;	-	-	-	-	55.0
Noton 1 Ila to Ex	Motor: 1 IIs to Gare and complete versus of	collocted with describing from each teat ait The initial load accordance in the each	T. 1. 1. 1. 1. 1. 1. 1. 1. 1.	11		Colorado Cala contrator de como como como como como como como com	41

Notes: <sup>1</sup> Up to five soil samples were collected with depth from each test pit. The initial lead concentration is the average concentration in the remaining soil samples.

<sup>2</sup> A portion of the berm was removed and placed in the cell. The final concentration is the average concentration in the remaining soil samples.

		Hd	Table 5 PHASE 1 LEAD RESULTS – AREA 3E	le 5 SULTS – AREA	3E		
Sample ID	Initial Condition	Initial Lead (mg/kg)	RWQCB Lead (mg/kg)	Follow Up Action	Follow Up Condition	Resample Lead (mg/kg)	Final Lead (mg/kg)
HB-1a	berm	22.6			>6 bedrock	27.0	24.8
HB-1b	berm	53.6					53.6
HB-1c	berm	20.4					20.4
HB-2a	berm	26.6					26.6
HB-2b	berm	11.5					11.5
HB-3a	berm	36.8					36.8
HB-3b	berm	14.4	-			-	14.4
HB-4a	berm	25.6	-			-	25.6
HB-4b	berm	8.98					86.8
HB-5a	berm	29.8					29.8
HB-5b	berm	21.8					21.8
HB-6a	berm	50.2			>6 bedrock	26.8	38.5
HB-6b	berm	24.4					24.4
HB-7a	berm	24.2			>6 bedrock	26.0	25.1
HB-7b	berm	20.8					20.8
HB-8a	berm	27.2					27.2
HB-8b	berm	17.4					17.4
HB-9a	berm	26.4		excavated	0.0 bedrock	-	bedrock
HB-10a	berm	117		excavated	0.0 bedrock	!	bedrock
HB-10b	berm	4140		excavated	0.0 bedrock		bedrock
HB-11a	berm	21.6		excavated	0.0 bedrock		bedrock
HB-11b	berm	94.6		excavated	0.0 bedrock		bedrock
HB-12a	berm	37.6					37.6
HB-12b	berm	12.1			-	-	12.1
HB-13a	berm	20.0			!	!	20.0
HB-13b	berm	38.8					38.8

		Hd	Table 5 (continued) PHASE 1 LEAD RESULTS – AREA 3E	ontinued) SULTS – AREA	3E		
Sample ID	Initial Condition	Initial Lead (mg/kg)	RWQCB Lead (mg/kg)	Follow Up Action	Follow Up Condition	Resample Lead (mg/kg)	Final Lead (mg/kg)
HB-14a	berm	16.7			>6 bedrock	22.4	19.6
HB-14b	berm	24.0					24.0
HB-15a	berm	20.8					20.8
HB-15b	berm	5.6					5.6
HB-16a	berm	57.6		excavated	0.0 bedrock		bedrock
HB-16b	berm	124		excavated	0.0 bedrock		bedrock
HB-17a	berm	16.6		excavated	0.0 bedrock		bedrock
HB-17b	berm	202		excavated	0.0 bedrock		bedrock
HB-18a	berm	95.8		excavated	0.0 bedrock		bedrock
HB-18b	berm	242		excavated	0.0 bedrock		bedrock
HB-19a	berm	68.4		excavated	0.0 bedrock		bedrock
HB-19b	berm	135		excavated	0.0 bedrock		bedrock
HB-20a	berm	250		excavated	0.0 bedrock		bedrock
HB-20b	berm	226		excavated	0.0 bedrock		bedrock
HB-21a	be <del>r</del> m	183		excavated	0.0 bedrock		bedrock
HB-21b	berm	185		excavated	0.0 bedrock		bedrock
501	>6 bedrock	834		excavated	>6 bedrock	10.0	10.0
502	>6 bedrock	7.3					7.3
503	1.0 bedrock						bedrock
504	>6 bedrock	31.2					31.2
505	>6 bedrock	7.7					7.7
506	0.0 bedrock						bedrock
507	0.0 bedrock				-	-	bedrock
508	>6 bedrock	6.3					6.3
509	>6 bedrock	80.8			!	-	80.8
510	>5 bedrock	10.4			!	-	10.4
511	>6 bedrock	31.2					31.2

		Hd	Table 5 (continued) PHASE 1 LEAD RESULTS – AREA 3E	ontinued) SULTS – AREA	3E		
Sample ID	Initial Condition	Initial Lead (mg/kg)	RWQCB Lead (mg/kg)	Follow Up Action	Follow Up Condition	Resample Lead (mg/kg)	Final Lead (mg/kg)
512	>6 bedrock	7.0			>6 bedrock	8.3	7.7
513	>6 bedrock	74.0					74.0
514	0.0 bedrock						bedrock
515	>6 bedrock	7.0					7.0
516	>6 bedrock	2080		excavated	>6 bedrock	25.2	25.2
517	0.0 bedrock						bedrock
518	>6 bedrock	6.9					6.9
519	>6 bedrock	15.0					15.0
520	0.0 bedrock						bedrock
521	>6 bedrock	5.8					5.8
522	>6 bedrock	236/310		excavated	>6 bedrock	78.0	78.0
523	no point		location outside area				no point
524	0.0 bedrock						bedrock
538	>6 bedrock	488/774		excavated	>6 bedrock	6.9	6.9
539	>6 bedrock	133					133.0
801A	>6 bedrock	20.2					20.2
802A	4.0 bedrock	18.3					18.3
803A	>6 bedrock	16.3					16.3
804A	>6 bedrock	35.2			>6 bedrock	25.8/24.8	28.6
805A	0.0 bedrock	-			-	!	bedrock
806A	0.0 bedrock	-			-	-	bedrock
807A	0.0 bedrock						bedrock
808A	0.0 bedrock				0.0 bedrock		bedrock
809A	haul road			removed	0.0 bedrock		bedrock
810A	0.0 bedrock						bedrock
811A	0.0 bedrock	-			-	!	bedrock
812A	<0.5 bedrock		1		!	1	bedrock

		Hd	Table 5 (continued) PHASE 1 LEAD RESULTS – AREA 3E	ontinued) SULTS – AREA	.3E		
Sample ID	Initial Condition	Initial Lead (mg/kg)	RWQCB Lead (mg/kg)	Follow Up Action	Follow Up Condition	Resample Lead (mg/kg)	Final Lead (mg/kg)
813A	>6 bedrock	8.6					9.8
814A	>6 bedrock	16.4	16.6				16.5
815A	0.0 bedrock						bedrock
816A	0.0 bedrock				0.0 bedrock		bedrock
817A	<0.5 bedrock						bedrock
818A	0.0 bedrock						bedrock
819A	haul road			removed	0.0 bedrock		bedrock
820A	0.0 bedrock						bedrock
821A	>6 bedrock	41.2					41.2
822A	4.0 bedrock	17.4					17.4
823A	0.0 bedrock						bedrock
824A	haul road			removed	0.0 bedrock		bedrock
825A	0.0 bedrock						bedrock
826A	0.0 bedrock						bedrock
827A	0.0 bedrock				0.0 bedrock		bedrock
828A	haul road			removed	0.0 bedrock		bedrock
829A	0.0 bedrock	-			!		bedrock
830A	0.0 bedrock						bedrock
901	>6 bedrock	26.2					26.2
1410	haul road			removed	0.0 bedrock		bedrock
1413	0.0 bedrock	-		-	!		bedrock
1414	0.0 bedrock						bedrock
1415	0.0 bedrock						bedrock
1416	0.0 bedrock				-		bedrock
1417	0.0 bedrock	!			!		bedrock
1418	0.0 bedrock	-			!	-	bedrock
Average	1	-	-	-	!	-	27.4

		Id	Table 6 PHASE 1 LEAD RESULTS – AREA 4	Table 6 O RESULTS – ARE	A 4		
Sample ID	Initial Condition	Initial Lead (mg/kg)	RWQCB Lead (mg/kg	Follow Up Action	Follow Up Condition	Resample Lead (mg/kg)	Final Lead (mg/kg)
601	0.0 bedrock			swept			bedrock
602	<0.5 bedrock			swept			bedrock
603	hardpan						hardpan
604	0.0 bedrock			swept			bedrock
605	0.0 bedrock			swept			bedrock
909	0.0 bedrock						bedrock
209	0.0 bedrock			swept			bedrock
809	hardpan			swept			hardpan
609	0.0 bedrock						bedrock
610	0.0 bedrock			swept			bedrock
611	0.0 bedrock			swept			bedrock
612	>6 bedrock	13.6	-	-	-	-	13.6
613	<0.5 bedrock			swept	0.0 bedrock		bedrock
614	0.0 bedrock			swept			bedrock
615	>6 bedrock	8.9					6.8
616	0.0 bedrock			swept			bedrock
617	0.0 bedrock			swept			bedrock
618	3.0 bedrock	9.88					88.6
619	0.0 bedrock			swept			bedrock
620	hardpan			swept			hardpan
621	0.0 bedrock						bedrock
622	<0.5 bedrock			swept			bedrock
623	0.0 bedrock			swept			bedrock
624	0.0 bedrock	-		swept	0.0 bedrock	-	bedrock
625	haul road	!	-	removed	0.0 bedrock	!	bedrock
626	0.0 bedrock	!	-	swept	!	!	bedrock
627	1.0 bedrock			swept	<0.5 bedrock	-	bedrock

628 629 629 630 631 633 634 634 635 636 636 637 638 639 640 700-N 701 701 702 703 704 705 706 706 707 707	Initial Condition  <0.5 bedrock  <0.0 bedrock  <0 bedrock	Initial Lead (mg/kg)	RWQCB Lead   Follow Up   RWQCB Lead   Follow Up   Action	Follow Up Action	Follow Up Condition 0.0 bedrock	(mg/kg)	Final Lead  (mg/kg)  bedrock  bedrock  bedrock  bedrock  bedrock  bedrock  bedrock  bedrock  7.4  7.4  7.4  7.4  7.4  7.4  7.4  7.
	>6 bedrock	9.8	1	-	1	1	9.8
	0.0 bedrock				1		bedrock
	-						

		Id	Table 6 (continued) PHASE 1 LEAD RESULTS – AREA 4	ontinued) ESULTS – ARE/	14		
Sample ID	Initial Condition	Initial Lead (mg/kg)	RWQCB Lead (mg/kg	Follow Up Action	Follow Up Condition	Resample Lead (mg/kg)	Final Lead (mg/kg)
713	>6 bedrock	15.7/25.8	21.2				20.9
714	hardpan						hardpan
715	<0.5 bedrock						bedrock
716	>6 bedrock	13.7					13.7
717	>6 bedrock	17.8					17.8
718	5.0 bedrock	12.1					12.1
719	2.0 bedrock	7.5/8.6	8.4				8.2
720	5.0 bedrock	6.2					6.2
721	0.0 bedrock						bedrock
722	>6 bedrock	11.0			>6 bedrock	15.8/11.4	12.7
723	>6 bedrock	7.3					7.3
724	>4 bedrock	24.0					24.0
725	>6 bedrock	286.0		excavated	>6 bedrock	157	157.0
726	>6 bedrock	83.2/108	101				97.4
727	>6 bedrock	13.4			>6 bedrock	6.8	10.1
1401	0.0 bedrock			swept			bedrock
1402	0.0 bedrock			swept			bedrock
1403	0.0 bedrock			swept	-		bedrock
Average							33.9

		PHASE 1	Table 7 PHASE 1 LEAD RESULTS – AREA 6	- AREA 6		
Sample ID	Initial Condition	Initial Lead (mg/kg)	Follow Up Action	Follow Up Condition	Resample Lead (mg/kg)	Final Lead (mg/kg)
1	>6 bedrock	19.8		>6 bedrock	17.8	18.8
2	2.0 bedrock	24.0		2.0 bedrock	28.0	26.0
3	>6 bedrock	15.7				15.7
4	5.0 bedrock	14.7		3.0 bedrock	19.2	17.0
ιC	1.0 bedrock	39.8		-	1	39.8
9	2.0 bedrock	26.8		-	1	26.8
7	>6 bedrock	25.2		1	1	25.2
∞	<2.0 bedrock	33.4	-	1	1	33.4
6	4.0 bedrock	15.0	:	1	1	15.0
10	0.0 bedrock					bedrock
11	>6 bedrock	14.4			1	14.4
12	>6 bedrock	14.4		-	1	14.4
13	>6 bedrock	23.2				23.2
14	3.0 bedrock	20.8				20.8
15	3.0 bedrock	13.6	swept			13.6
16	0.5 bedrock		swept			bedrock
17	0.0 bedrock	1	swept	0.0 bedrock	1	bedrock
18	1.0 bedrock		swept			bedrock
19	>6 bedrock	46.0	swept			46.0
20	>6 bedrock	21.4				21.4
21	>6 bedrock	12.2				12.2
22	>6 bedrock	12.1				12.1
23	>6 bedrock	33.8				33.8
24	>6 bedrock	10.1				10.1
25	1.0 bedrock		swept			bedrock
26	0.25 bedrock		swept			bedrock
27	0.0 bedrock		swept			bedrock

		7 PHASE 1	Table 7 (continued) PHASE 1 LEAD RESULTS – AREA 6	- AREA 6		
Sample ID	Initial Condition	Initial Lead (mg/kg)	Follow Up Action	Follow Up Condition	Resample Lead (mg/kg)	Final Lead (mg/kg)
28	0.0 bedrock		swept			bedrock
29	1.0 bedrock		swept	0.0 bedrock		bedrock
30	>6 bedrock	37.4	-	-	:	37.4
31	>6 bedrock	48.4				48.4
32	5.0 bedrock	46.2				46.2
33	>6 bedrock	15.3				15.3
34	0.0 bedrock		swept			bedrock
35	0.0 bedrock		swept	0.0 bedrock		bedrock
36	1.0 bedrock		swept			bedrock
37	0.0 bedrock		swept			bedrock
38	0.0 bedrock		swept			bedrock
39	>6 bedrock	13.7				13.7
40	>6 bedrock	67.0				67.0
41	>6 bedrock	15.9				15.9
42	>6 bedrock	30.0				30.0
43	1.0 bedrock		swept			bedrock
44	0.0 bedrock		swept			bedrock
45	0.5 bedrock		swept			bedrock
46	0.0 bedrock		swept			bedrock
47	4.0 bedrock	28.8	swept			28.8
48	>6 bedrock	13.8				13.8
49	>6 bedrock	25.2				25.2
50	>6 bedrock	101				101.0
51	>6 bedrock	14.7		-	-	14.7
52	<1.0 bedrock		swept	!	-	bedrock
53	0.0 bedrock		swept	-	-	bedrock
54	1.0 bedrock		swept	!	-	bedrock
55	4.0 bedrock	180	swept	!	-	180.0

		PHASE 1	Table 7 (continued) PHASE 1 LEAD RESULTS	) - AREA 6		
Sample ID	Initial Condition	Initial Lead (mg/kg)	Follow Up Action	Follow Up Condition	Resample Lead (mg/kg)	Final Lead (mg/kg)
56	no point		location outside area			no point
57	4.0 bedrock	40.0				40.0
58	>6 bedrock	15.4				15.4
59	>6 bedrock	15.8				15.8
09	>6 bedrock	31.0				31.0
61	0.0 bedrock					bedrock
62	1.0 bedrock		swept			bedrock
63	4.0 bedrock	260	swept	0.0 bedrock	-	bedrock
64	4.0 bedrock	34.0	swept			34.0
65	no point		location outside area			no point
99	0.0 bedrock					bedrock
29	1.0 bedrock			2.0 bedrock	22.8	22.8
89	1.0 bedrock					bedrock
69	>6 bedrock	42.0				42.0
70	1.0 bedrock		swept	0.0 bedrock		bedrock
71	1.0 bedrock		swept			bedrock
72	1.0 bedrock		swept			bedrock
73	1.5 bedrock		swept	0.0 bedrock		bedrock
74	>6 bedrock	39.6				39.6
75	>6 bedrock	35.4				35.4
92	0.0 bedrock					bedrock
77	5.0 bedrock	35.2				35.2
78	>6 bedrock	59.6				59.6
79	4.0 bedrock	63.4				63.4
80	0.0 bedrock					bedrock
81	3.0 bedrock	1160	swept	0.0 bedrock		bedrock
82	0.0 bedrock	-	swept	-		bedrock
83	1.0 bedrock		swept			bedrock

		T PHASE 1	Table 7 (continued) PHASE 1 LEAD RESULTS – AREA 6	- AREA 6		
Sample ID	Initial Condition	Initial Lead (mg/kg)	Follow Up Action	Follow Up Condition	Resample Lead (mg/kg)	Final Lead (mg/kg)
84	>6 bedrock	151	1	1	1	151.0
85	>6 bedrock	24.8				24.8
98	>6 bedrock	25.2				25.2
87	2.0 bedrock			$0.0  \mathrm{bedrock}$		bedrock
88	5.0 bedrock	22.6				22.6
68	>6 bedrock	21.8				21.8
90	2.0 bedrock			>6 bedrock	41.0	41.0
91	4.0 bedrock	37.0				37.0
92	0.0 bedrock		swept			bedrock
93	no point		sample ID not used			no point
94	2.0 bedrock		swept	0.0 bedrock		bedrock
95	2.0 bedrock		swept	0.0 bedrock		bedrock
96	>6 bedrock	200				200.0
76	>6 bedrock	27.8				27.8
98	>6 bedrock	9.3		-	-	9.3
66	>6 bedrock	12.9				12.9
100	>6 bedrock	18.5		>6 bedrock	20.2	19.4
101	haul road		removed	bedrock		bedrock
102	>6 bedrock	15.4				15.4
103	0.0 bedrock					bedrock
104	2.0 bedrock			1.0 bedrock	29.0	29.0
105	4.0 bedrock	17.4		!	-	17.4
106	haul road		removed	bedrock	-	bedrock
107	>6 bedrock	34.0				34.0
108	>6 bedrock	48.8				48.8
109	0.0 bedrock		swept	!	-	bedrock
110	no point	clean compound	-	gravel	-	gravel
111		haul road/compound	removed	bedrock	-	bedrock

		T PHASE 1	Table 7 (continued) PHASE 1 LEAD RESULTS	) - AREA 6		
Sample ID	Initial Condition	Initial Lead (mg/kg)	Follow Up Action	Follow Up Condition	Resample Lead (mg/kg)	Final Lead (mg/kg)
112	0.0 bedrock					bedrock
113	>6 bedrock	19.6				19.6
114	>6 bedrock	31.8				31.8
115	0.0 bedrock		swept			bedrock
116	no point	clean compound		gravel		gravel
117	no point	haul road/compound	removed	bedrock		bedrock
118	4.0 bedrock	48.4				48.4
119	>6 bedrock	20.2				20.2
120	>6 bedrock	27.8				27.8
121	0.0 bedrock		swept			bedrock
122	no point	clean compound		gravel		gravel
123	no point	haul road/compound	removed	bedrock		bedrock
124	1.0 bedrock					bedrock
125	4.0 bedrock	30.4				30.4
126	>6 bedrock	25.8				25.8
127	>6 bedrock	29.2				29.2
128	0.0 bedrock		swept			bedrock
129	>6 bedrock	10.0				10.0
130	haul road		removed	bedrock		bedrock
131	1.0 bedrock					bedrock
132	2.0 bedrock			< 0.5 bedrock		bedrock
133	>6 bedrock	18.2				18.2
134	>6 bedrock	29.4		-	-	29.4
135	0.0 bedrock		swept			bedrock
136	>6 bedrock	41.4				41.4
137	0.0 bedrock	-		-	-	bedrock
138	0.0 bedrock	-		0.0 bedrock	-	bedrock
139	1.0 bedrock					bedrock

		PHASE 1	Table 7 (continued) PHASE 1 LEAD RESULTS – AREA 6	AREA 6		
Sample ID	Initial Condition	Initial Lead (mg/kg)	Follow Up Action	Follow Up Condition	Resample Lead (mg/kg)	Final Lead (mg/kg)
140	>6 bedrock	13.4	1	1	1	13.4
141	>6 bedrock	21.6		>6 bedrock	14.8/15.0	17.1
142	0.0 bedrock	-	swept			bedrock
143	haul road		removed/regravelled	gravel		gravel
144	>6 bedrock	19.4				19.4
145	0.0 bedrock					bedrock
146	2.0 bedrock		excavated	<0.5 bedrock		bedrock
147	2.0 bedrock		removed	bedrock		bedrock
148	2.0 bedrock			3.0 bedrock	26.6	bedrock
149	0.0 bedrock		swept			bedrock
150	0.0 bedrock		swept			bedrock
151	haul road		removed/regravelled	gravel		gravel
152	>6 bedrock	13.8				13.8
153	>6 bedrock	13.1		4.0 bedrock	14.0	13.6
154	0.0 bedrock			0.0 bedrock		bedrock
155	0.0 bedrock					bedrock
156	0.0 bedrock					bedrock
157	2.0 bedrock			<0.5 bedrock		bedrock
158	1.0 bedrock		swept	0.0 bedrock		bedrock
159	haul road		removed/regravelled	gravel		gravel
160	5.0 bedrock	19.3	-	-	-	19.3
161	1.0 bedrock					bedrock
162	>6 bedrock	13.7				13.7
163	0.0 bedrock					bedrock
164	1.0 bedrock					bedrock
165	0.0 bedrock	!				bedrock
166	0.0 bedrock	1	swept	-	-	bedrock
167	0.0 bedrock	-	-	1	1	bedrock

		PHASE 1	Table 7 (continued) PHASE 1 LEAD RESULTS	) – AREA 6		
Sample ID	Initial Condition	Initial Lead (mg/kg)	Follow Up Action	Follow Up Condition	Resample Lead (mg/kg)	Final Lead (mg/kg)
168	>6 bedrock	1,890	excavated	0.0 bedrock		bedrock
169	no point	Sa:	sample location outside area	ea		no point
170	haul road		removed/regravelled	gravel		gravel
171	>6 bedrock	9.5				9.5
172	>6 bedrock	10.7				10.7
173	>6 bedrock	27.8				27.8
174	0.0 bedrock					bedrock
175	0.0 bedrock					bedrock
176	0.0 bedrock			0.0 bedrock		bedrock
177	0.0 bedrock					bedrock
178	0.0 bedrock					bedrock
179	>6 bedrock	56.0				56.0
180	no point	sa:	sample location outside area	ea		no point
181	haul road		removed/regravelled	gravel		gravel
182	>6 bedrock	25.0				25.0
183	>6 bedrock	24.0				24.0
184	2.0 bedrock			>6 bedrock	13.6	13.6
185	no point		sample ID not used			no point
186	0.0 bedrock					bedrock
187	0.0 bedrock					bedrock
188	0.0 bedrock					bedrock
189	0.0 bedrock			0.0 bedrock		bedrock
190	0.0 bedrock					bedrock
191	>6 bedrock	86.2				86.2
192	no point	sa.	sample location outside area	ea		no point
193	haul road	-	removed/regravelled	gravel		gravel
194	>6 bedrock	18.8	-	!	!	18.8
195	>6 bedrock	18.5				18.5

		PHASE 1	Table 7 (continued) PHASE 1 LEAD RESULTS – AREA 6	- AREA 6		
Sample ID	Initial Condition	Initial Lead (mg/kg)	Follow Up Action	Follow Up Condition	Resample Lead (mg/kg)	Final Lead (mg/kg)
196	0.0 bedrock	1		1	1	bedrock
197	0.0 bedrock					bedrock
198	0.0 bedrock					bedrock
199	0.0 bedrock					bedrock
200	0.0 bedrock			0.0 bedrock		bedrock
201	0.0 bedrock					bedrock
202	>6 bedrock	700	excavated	0.0 bedrock		bedrock
1404	<0.5 bedrock					bedrock
1405	0.0 bedrock					bedrock
1406	0.0 bedrock		-		-	bedrock
1407	0.0 bedrock					bedrock
1408	0.0 bedrock					bedrock
1409	0.0 bedrock					bedrock
Average						32.4

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	TE/	Table 8 LEAD RESULTS – NORTHERN BUFFER AREA	Table 8 ORTHERN BUFFER AI	REA	
Sample ID	Final Lead (mg/kg)	Sample ID	Final Lead (mg/kg)	Sample ID	Final Lead (mg/kg)
301	30.8	321	26.6	341	126.0
302	17.8	322	40.8	342	31.8
303	12.0	323	64.0	343	16.1
304	21.0	324	82.4	344	14.0
305	18.6	325	18.8	345	40.6
306	15.4	326	10.6	346	5.2
307	28.0	327	35.6	347	14.9
308	218.0	328	3.4	348	17.0
309	37.0	329	22.4	349	20.4
310	35.6	330	28.0	350	19.6
311	5.4	331	28.6	351	19.8
312	5.6	332	9.8	352	68.4
313	5.7	333	12.8	353	7.8
314	19.0	334	10.8	354	70.0
315	135.0	335	9.6	355	8.8
316	64.0	336	15.8	356	53.7
317	34.4	337	14.4	357	76.2
318	10.0	338	12.8	358	40.2
319	10.0	339	24.8	359	7.3
320	16.8	340	21.8	360	11.4
Average	!	1	1	1	31.7
Note: Sample ID renumber	Note: Sample ID renumbered from original to avoid confusion with current numbering scheme. Additional information is included in the Confirmation Sampling	onfusion with current number	ering scheme. Additional in	formation is included in the	Confirmation Sampling

Note: Sample ID renumbered from original to avoid confusion with current numbering scheme. Additional information is included in the Confirmation Sampling Report, APN 011-030-139, Humboldt Road Burn Dump (VESTRA, 2004c).

		Table 9	le 9		
		PHASE 2 RESULTS – AREA 3W	LTS – AREA 3W		
Sample ID	Final Condition	Phase 1 Lead (mg/kg)	Phase 2 Lead (mg/kg)	Phase 2 Arsenic (mg/kg)	Phase 2 Dioxin TEQ (mg/kg)
902	0.0 bedrock			-	-
912	>6 bedrock	22.2/39.2	36.4	1.1	
918	0.0 bedrock				
930	haul road		14.4	1.0	
931	haul road		39.2	1.1	
943	>6 bedrock	27.4	39.4	<0.8	
943-D	>6 bedrock		46.4	2.0	
946	>6 bedrock	26.4	96.4	4.9	
950	>6 bedrock	hardpan	7.3	<0.8	
1107	3.0 bedrock	4.7/68.4	210	1.9	
1112	>6 bedrock	7.8/109	129	2.6	
Composite					8.45E-07
Remedial Action Goal		224	224	6.12	5.00E-04

		Tabl	Table 10		
		PHASE 2 RESULTS – AREA 3E	LTS – AREA 3E		
Commits ID	Final Condition	Phase 1 Lead	Phase 2 Lead	Phase 2 Arsenic	Phase 2 Dioxin TEQ
Sample 1D	FIIIAI COII <b>d</b> IUOII	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
HB-1	berm	22.6	27.0	1.0	-
HB-6	berm	50.2	26.8	2.0	-
HB-7	mrəq	24.2	26.0	1.3	-
HB-14	mrəq	16.7	22.4	1.3	1
512	>6 bedrock	7.0	8.3	8.0>	-
804	>6 bedrock	35.2	25.8	1.2	-
804-D	>6 bedrock	!	24.8	1.0	-
808	0.0 bedrock	!		!	-
816	0.0 bedrock	-		-	-
827	0.0 bedrock				
Composite					4.91E-07
Remedial Action Goal		224	224	6.12	5.00 E-04

		Tab	Table 11		
		PHASE 2 RESU	PHASE 2 RESULTS – AREA 4		
Sample ID	Final Condition	Phase 1 Lead (mg/kg)	Phase 2 Lead (mg/kg)	Phase 2 Arsenic (mg/kg)	Phase 2 Dioxin TEQ (mg/kg)
613	0.0 bedrock				
624	0.0 bedrock	-	1	-	1
628	0.0 bedrock				
634	<0.5 bedrock				
712	>6 bedrock	10.3 / 7.8 / 7.8	7.6	<0.8	1
722	>6 bedrock	11.0	15.8	0.8	
722-D	>6 bedrock		11.4	1.6	
727	>6 bedrock	13.4	8.9	1.2	
Composite					9.86E-07
Remedial Action Goal		224	224	6.12	5.00E-04

			Tabi PHASE 2 RESU	Table 12 PHASE 2 RESULTS – AREA 6			
Sample ID	Initial Condition	Phase 1 Lead (mg/kg)	2005 Action	Final Condition		Phase 2 Lead Phase 2 Arsenic (mg/kg) (mg/kg) (TEQ (mg/kg)	Phase 2 Dioxin TEQ (mg/kg)
1	>6 bedrock	19.8	none	>6 bedrock	17.8	1.8	
2	2.0 bedrock	24.0	none	2.0 bedrock	28.0	1.6	
4	5.0 bedrock	14.7	none	3.0 bedrock	19.2	1.0	
17	0.0 bedrock	-	swept	0.0 bedrock	-		-
35	0.0 bedrock		swept	0.0 bedrock			
29	1.0 bedrock		none	2.0 bedrock	22.8	1.6	
70	1.0 bedrock		swept	0.0 bedrock			
73	1.5 bedrock		swept	0.0 bedrock			
100	>6 bedrock	18.5	none	>6 bedrock	20.2	1.2	
132	2.0 bedrock		none	<0.5 bedrock			
138	0.0 bedrock		none	0.0 bedrock			
141	>6 bedrock	21.6	none	>6 bedrock	15.0	2.0	
141-D	>6 bedrock		none	>6 bedrock	14.8	2.6	
153	>6 bedrock	13.1	none	4.0 bedrock	14.0	2.0	
154	0.0 bedrock		none	0.0 bedrock			
157	2.0 bedrock		none	<0.5 bedrock			
158	1.0 bedrock		swept	0.0 bedrock			
168	>6 bedrock	1,890	excavated	0.0 bedrock			
176	0.0 bedrock		none	0.0 bedrock			
189	0.0 bedrock		none	0.0 bedrock			
200	0.0 bedrock		none	0.0 bedrock	-		
Composite	-	-		!	!	-	2.01E-06
Remedial Action Goal	ŀ	224		1	224	6.12	5.00E-04

## Section 3 CONCLUSIONS

Approximately 176,000 loose cubic yards of burn ash and waste debris were removed from APN 011-030-016, APN 011-030-136, APN 011-030-138, APN 002-180-084, and APN 002-180-086. Following the removal activities, soil samples from approximately 270 locations were collected and submitted for lead analyses. The average residual lead concentrations of 55.0 mg/kg in Area 3W, 27.4 mg/kg in Area 3E, 33.9 mg/kg in Area 4, and 32.4 mg/kg in Area 6 are less than the remedial action goal of 224 mg/kg. The residual arsenic and dioxin results are also less than the remedial action goals of 6.12 mg/kg and 5.0E-04 mg/kg, respectively.

Based on these results, the owners of APN 011-030-016, APN 011-030-136, APN 011-030-138, APN 002-180-084, and APN 002-180-086 are requesting a Certificate of Completion for APN 011-030-016, APN 011-030-136, APN 011-030-138, APN 002-180-084, and APN 002-180-086.

### Section 4 REFERENCES

- EMKO. 2001a. Remedial Investigation Report, Soil, Waste, and Sediment, Humboldt Road Burn Dump, Chico, California. Prepared for City of Chico by EMKO Environmental, Inc.
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- VESTRA, 2004a. Final Remedial Action Plan, Humboldt Road Private Properties Operational Unit. Prepared for Private Properties Humboldt Road Burn Dump.
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